

2023-2024

**National Surveys on Drug Use and Health:
Guide to State Tables and Summary of Small
Area Estimation Methodology**

Section A: Overview of NSDUH and Model-Based State Estimates

A.1 Introduction

This document provides information on the model-based small area estimates of substance use and mental health disorders in states based on data from the combined 2023-2024 National Surveys on Drug Use and Health (NSDUHs). Note that the substance use treatment, mental health treatment, and illicit drug use other than marijuana estimates are based on data from the 2024 NSDUH only because there was no comparable data in 2023 for those measures (see Sections B.11 and B.12.2 for more details). Titles of all tables and maps indicate the years for which the estimates are produced. The combined 2023-2024 as well as the 2024-only state small area estimates henceforth will be referred as the 2023-2024 state estimates. These estimates are available online along with other related information.¹

NSDUH is an annual survey of the civilian, noninstitutionalized population aged 12 or older residing within the United States, conducted from January through December, and is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). NSDUH is planned and managed by SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ). Data collection and analysis are conducted under contract with RTI International.²

The 2023 and 2024 NSDUHs used multimode data collection, in which respondents completed the survey via the web or in person. Methodological investigations led to the conclusion that estimates based on multimode data collection since 2021 are not comparable with estimates from 2020 or prior years. Chapter 6 in *2021 National Survey on Drug Use and Health (NSDUH): Methodological Summary and Definitions* (CBHSQ, 2022) discusses these methodological investigations in greater detail. Thus, the 2021-2022, 2022-2023, and 2023-2024 small area estimates should not be compared to state estimates from 2020 and prior years. The 2023-2024 state estimates are comparable with the 2021-2022 and 2022-2023 estimates.

A summary of NSDUH's methodology is given in Section A.2. Section A.3 lists all the tables and files associated with the 2023-2024 state estimates. Information is given in Section A.4 on the Bayesian confidence intervals and how to make interpretations with respect to the small area estimates. Section A.5 discusses related substance use measures and warns users about not drawing conclusions by subtracting small area estimates from two different measures.

¹ Estimates can be found on the [NSDUH State Releases](#) web page.

² RTI International is a trade name of Research Triangle Institute. RTI and the RTI logo are U.S. registered trademarks of Research Triangle Institute.

The survey-weighted hierarchical Bayes (SWHB) small area estimation (SAE) methodology³ used in the production of state estimates from the 1999 to 2023⁴ surveys also was used in the production of the 2023-2024 state estimates. The SWHB methodology is described in Appendix E of the 2001 state report (Wright, 2003b) and in Folsom and colleagues (1999). A general model description is given in Section B.1 of this document. A list of measures (outcomes) for which small area estimates are produced is given in Section B.2. Predictors used in the 2023-2024 SAE modeling are listed and described in Section B.3. Selection of predictors for SAE modeling is described in Section B.4.

The SWHB methodology uses survey weights⁵ in the estimation process; as a result, small area estimates obtained using the SWHB methodology are design consistent (i.e., the small area estimates for states with large sample sizes are close to the robust design-based estimates). Additionally, the national small area estimates⁶ are very close to the national design-based estimates. However, to ensure internal consistency, it is desirable to have the national small area estimates exactly match the national design-based estimates. This process is called “benchmarking.” The benchmarked state-level estimates are also potentially less biased than the unbenchmarking state-level estimates. Beginning in 2002, exact benchmarking was introduced, as described in Section B.5. The census region–level estimates in the tables are population-weighted aggregates of the benchmarked state-level estimates. Tables of the estimated numbers of people associated with each measure are available online,⁷ and an explanation of how these counts and their respective Bayesian confidence intervals are calculated can be found in Section B.6. Section B.7 discusses the method to compute aggregated estimates by combining two age groups. The definition and explanation of the formula used in estimating the marijuana initiation rate are given in Section B.8.

State estimates for the age groups 12 to 17, 18 to 25, 26 or older, 18 or older, and 12 or older⁸ are provided for all measures except for any mental illness (AMI), co-occurring substance

³ The methodology and associated procedures were reviewed and approved by panels of SAE experts in 1999, 2000, and 2024. The 1999 and 2000 panels included Dr. William Bell (U.S. Census Bureau), Professor Partha Lahiri (University of Maryland, College Park), Professor Balgobin Nandram (Worcester Polytechnic Institute), Mr. Wesley Schaible (formerly Associate Commissioner for Research and Evaluation, Bureau of Labor Statistics), Professor Emeritus J.N.K. Rao (Carleton University), and Professor Alan Zaslavsky (Harvard University). The 2024 panel included Professor Partha Lahiri (University of Maryland, College Park), Professor Gauri Datta (University of Georgia), Dr. Andreea Erciulescu (Westat), and Professor Emily Berg (Iowa State).

⁴ The 2019-2020 state small area estimates were produced, but they have since been removed from SAMHSA’s website. Methodological investigations found that the unusual societal circumstances in 2020 and the resulting methodological revisions to NSDUH data collection have affected the comparability of 2020 estimates with estimates from 2019 and earlier. Consequently, estimates that involve combining data from 2020 with previous years have been removed from the SAMHSA website.

⁵ The general approach used to develop survey weights is described in the [2024 National Survey on Drug Use and Health \(NSDUH\): Methodological Summary and Definitions](#) report.

⁶ National small area estimates = Population-weighted averages of state-level small area estimates.

⁷ See Tables 1 to 41 in *2023-2024 National Surveys on Drug Use and Health: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)* (CBHSQ, forthcoming b).

⁸ For major depressive episode, receipt of mental health treatment, serious thoughts of suicide, suicide plans, and suicide attempts, estimates for people aged 12 or older are not included. For any mental illness (AMI), co-occurring substance use disorder (SUD) and AMI, serious mental illness (SMI), and co-occurring SUD and SMI, estimates for adolescents aged 12 to 17 and people aged 12 or older are not included because adolescents are not asked questions about mental illness.

use disorder (SUD) and AMI, serious mental illness (SMI), co-occurring SUD and SMI, receipt of mental health treatment, major depressive episode (MDE), serious thoughts of suicide, suicide plans, and suicide attempts. Additionally, estimates for adolescents aged 12 to 17 are not available for past year heroin use because this outcome was extremely rare among adolescents aged 12 to 17 in the 2023-2024 NSDUHs. As a result, estimates of past year heroin use for people aged 12 or older are also not produced.

Estimates of underage (aged 12 to 20) alcohol use, binge alcohol use, perceptions of great risk from having five or more drinks of an alcoholic beverage once or twice a week, alcohol use disorder, cigarette use, and tobacco product use were also produced.⁹ Alcohol consumption is expected to differ significantly across the 18 to 25 age group because of the legalization of alcohol at age 21. Additionally, legislation in December 2019 raised the federal minimum age for sale of tobacco products (along with e-cigarettes) from 18 to 21 years (U.S. Food and Drug Administration, 2021). All 50 states and the District of Columbia prohibit the sale of tobacco products to people younger than 21. Therefore, it was deemed valuable to produce small area estimates for people aged 12 to 20. A short description of the methodology used to produce estimates of underage outcomes is provided in Section B.9.

The remainder of Section B covers three additional topics:

- Section B.10 discusses the criteria used to define SUD.
- Section B.11 discusses the definition for the substance use treatment outcomes. It also contains information about people not receiving substance use treatment among those classified as needing treatment.
- Section B.12 discusses the production of estimates for AMI, SMI, mental health treatment, MDE, and suicidality.

In Section C, the 2024, and 2023-2024 combined survey sample sizes, response rates, and population estimates are included in [Tables C.1](#) to [C.6](#).

A.2 Summary of NSDUH Methodology

NSDUH is the primary source of statistical information on the use of tobacco, alcohol, prescription pain relievers, and other substances (e.g., marijuana, cocaine) by the U.S. civilian, noninstitutionalized population aged 12 or older. The survey also includes extensive information on substance use disorders, substance use treatment, mental health conditions, and mental health treatment.

NSDUH has been ongoing since 1971. The survey collects information from residents of households (e.g., individuals living in houses or townhouses, apartments, and condominiums; civilians living in housing on military bases) and individuals in noninstitutional group quarters (e.g., shelters, rooming or boarding houses, college dormitories, halfway houses). Not included are individuals with no fixed household address (e.g., people experiencing homelessness and not in shelters), military personnel on active duty, and residents of institutional group quarters, such

⁹ Binge drinking is defined as having five or more drinks (for males) or four or more drinks (for females) on the same occasion on at least 1 day in the 30 days prior to the survey.

as jails and hospitals. People also are excluded during data collection if they cannot complete the survey in either English or Spanish or they are not physically or mentally capable of completing the interview. From 1999 to 2019, the data were collected via face-to-face (in-person) interviews at a respondent’s place of residence using a combination of computer-assisted personal interviewing conducted by an interviewer and audio computer-assisted self-interviewing. Because of the coronavirus disease 2019 (COVID-19) pandemic, an additional web data collection mode was introduced to the 2020 NSDUH and continued to be used in all later years.

A coordinated sample design was developed for the 2014-2024 NSDUHs. It is state based, with an independent, multistage area probability sample within each state and the District of Columbia. This design designates 12 states as large sample states. These 12 states have the following target sample sizes per year: 4,560 interviews in California; 3,300 interviews in Florida, New York, and Texas; 2,400 interviews in Illinois, Michigan, Ohio, and Pennsylvania; and 1,500 interviews in Georgia, New Jersey, North Carolina, and Virginia. Making the sample sizes more proportional to the state population sizes improves the precision of national estimates. This change also allows for a more cost-efficient sample allocation to the largest states while slightly increasing the sample sizes in smaller states to improve the precision of state estimates. The target sample size per year in the small states is 960 interviews, except for Hawaii, where the target sample size is 967 interviews.¹⁰ The combined 2023-2024 fielded sample sizes for each state are provided in [Table C.3](#).

In 2024, NSDUH collected data from about 70,240 respondents aged 12 or older. Nationally in 2023-2024, a total of approximately 401,990 dwelling units (DUs)¹¹ were screened, and approximately 137,920 people responded within the screened DUs (see [Table C.3](#)). The weighted screening response rate (SRR) was 23.13 percent, the weighted interview response rate (IRR) was 51.00 percent, and the overall weighted response rate (ORR) was 11.79 percent ([Table C.3](#)). The ORRs ranged from 9.25 percent in Illinois to 18.87 percent in Utah. Estimates reflect the probability of selection, unit nonresponse, poststratification to known census population estimates, item imputation, and other aspects of the estimation process. These procedures are described in detail in *2024 National Survey on Drug Use and Health: Methodological Resource Book* (CBHSQ, 2025a).

All sampled DUs are screened to confirm eligibility and to select zero, one, or two members to participate in the survey. The weighted SRR is calculated as the weighted number of successfully screened DUs¹² divided by the weighted number of eligible DUs, or

$$SRR = \frac{\sum w_{DU} complete_{DU}}{\sum w_{DU} eligible_{DU}},$$

¹⁰ For Hawaii, the sample was designed to yield a minimum of 200 completed interviews in Kauai County, Hawaii, over a 3-year period. To achieve this goal while maintaining precision at the state level, the annual sample in Hawaii consists of 67 completed interviews in Kauai County and 900 completed interviews in the remainder of the state, for a total of 967 completed interviews each year.

¹¹ A DU in NSDUH refers to either a housing unit or a group quarter listing unit, such as a dormitory room or a shelter bed.

¹² A successfully screened DU is one in which all screening questionnaire items were answered by an adult resident of the DU and either zero, one, or two DU members were selected for the NSDUH interview.

where w_{DU} is the inverse of the unconditional probability of selection for the DU and excludes all adjustments for nonresponse and poststratification.

In successfully screened DUs, eligible DU members who were selected were asked to complete the interview. The weighted IRR for NSDUH is calculated as the weighted number of respondents divided by the weighted number of selected people, or

$$IRR = \frac{\sum w_i \text{complete}_i}{\sum w_i \text{selected}_i},$$

where w_i is the design-based weight or the inverse of the probability of selection for the i th person and includes DU-level nonresponse and poststratification adjustments. To be considered a completed interview, a respondent must provide enough data to pass the usable case rule.¹³

The weighted ORR is defined as the product of the weighted SRR and the weighted IRR or

$$ORR = SRR \times IRR.$$

For more details on the screening and response rates, see Section 3.3.1 in *2024 National Survey on Drug Use and Health: Methodological Summary and Definitions* (CBHSQ, 2025b).

A.3 Presentation of Data

This section lists all products associated with the 2023-2024¹⁴ state estimates.

The following products exclude age groups 12 to 17 and 12 or older for past year heroin use because in 2023-2024, heroin use among adolescents aged 12 to 17 was very rare. In addition to this methodology document for the 2023-2024 state estimates, the following products are available on the [NSDUH State Releases](#) web page:

- **2023-2024 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia) (Tables 1 to 41, by Age Group):** Tables of percentages and associated 95 percent Bayesian confidence intervals (see Section A.4) are included for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and all people aged 12 or older. Also included are tables for underage (12 to 20) alcohol use, binge alcohol use, perceptions of great risk from having five or more drinks of an alcoholic beverage once or twice a week, alcohol use disorder, tobacco product use, and cigarette use. These tables are available in Excel and PDF formats. Whenever possible, to enhance the precision of small area estimates and rankings—particularly for states with small sample sizes—and to

¹³ The usable case rule requires that a respondent answer “yes” or “no” to the question on lifetime use of cigarettes and “yes” or “no” to at least nine additional lifetime use questions.

¹⁴ For some outcomes, only 2024 NSDUH data was used to produce the estimates. See B.2 for more information.

more effectively detect year-to-year changes, state estimates are based on 2 consecutive years of pooled NSDUH data. Changes over time are assessed using 2-year moving averages (e.g., 2022-2023 vs. 2023-2024).

- **2023-2024 NSDUH National Maps of Prevalence Estimates, by State (Figures 1a to 41d):** The color of each state on these U.S. maps indicates how the state ranks relative to other states for each measure. States could fall into one of five groups according to their ranking by quintiles. Because 51 states were ranked for each measure, the middle quintile was assigned to 11 states, and the remaining quintiles were assigned 10 states each. In some cases, a “quintile” could have more or fewer states than desired because two (or more) states had the same estimate (to two decimal places). For the perception of risk–related outcomes, when such ties occurred at the “boundary” between two groups, all the States with the same estimate were conservatively assigned to the upper group (larger estimates for perception of risk of using a substance is considered more conservative). For all other outcomes, when such ties occurred at the “boundary” between two groups, all States with the same estimate (rounded to two decimal places) were assigned to the lower group. Those states with the highest rates for a given measure are in orange, with the exception of the perceptions of risk measures, for which the lowest perceptions of great risk are in orange. Those states with the lowest estimates are in dark blue, with the exception of the perceptions of risk measures, for which the highest perceptions of great risk are in dark blue. These maps are available in HTML and PDF formats.
- **2023-2024 NSDUH: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia) (Tables 1 to 41):** Tables showing estimated numbers (counts in thousands) and Bayesian confidence intervals are included for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and people aged 12 or older. Also included are tables for six underage (12 to 20) measures. These tables are available in Excel and PDF formats.
- **2023-2024 NSDUH State-Specific Tables (Tables 1A to 112B):** Tables are provided for each individual state and the District of Columbia, as well as for the total United States and the four census regions (i.e., Northeast, Midwest, South, and West). The tables (four per area) show the estimated percentages for all outcomes, and the estimated numbers (counts in thousands). These tables are available in HTML and PDF formats.
- **NSDUH: Comparison of the 2022-2023 and 2023-2024 Population Percentages (50 States and the District of Columbia) (Tables 1 to 32):** Tables are presented that show the 2022-2023 (previously published on the [NSDUH State Releases](#) web page) and 2023-2024 NSDUH state estimates and an indication of the statistical significance of the difference or change (p value). These tables are produced for outcomes that were consistently defined across the two time periods and for which 2022-2023 and 2023-2024 state-level estimates are available. Because state-level estimates are based on 2 years of combined NSDUH data, two consecutive sets of estimates have a 1-year overlap (e.g., 2022-2023 and 2023-2024). If the population totals across the 3 years (e.g., 2022, 2023, and 2024) were the same, then the null hypothesis of no difference between the log odds of the 2022-2023 and 2023-2024

population percentages would be equivalent to testing the null hypothesis that the difference between the 2022 and 2024 population percentages is zero. These tables are available in HTML and PDF formats. The methodology used to compare these population percentages is provided in a document published with these tables and will be available in HTML and PDF formats, as well.

- **2023-2024 NSDUH: Other Sources of State-Level Data:** This document compares three outcomes (cigarette use, alcohol use, and binge alcohol use) from NSDUH with data from the Behavioral Risk Factor Surveillance System. This document is available in HTML and PDF formats.
- **2023-2024 NSDUH: Comparison of Population Percentages between the United States, Census Regions, States, and the District of Columbia:** The p values contained in these tables for each outcome and age group can be used to test the null hypothesis of no difference between population percentages for the following types of comparisons: total United States versus census region, total United States versus state, census region versus census region, census region versus state, and state versus state. These tables are available in Excel format, and the methodology used to compute these p values is provided in a document published with these Excel tables. This methodology document is available in HTML and PDF formats.

A.4 Bayesian Confidence Intervals

The total U.S. estimates given in each of the 41 tables are design-based national estimates along with 95 percent design-based confidence intervals, all of which are based on the survey design, the survey weights, and the reported data. The state estimates given in the tables are model-based small area estimates (using SWHB-SAE methodology) that have been adjusted (benchmarked) such that the population-weighted mean of the estimates across the 50 states and the District of Columbia equals the design-based national estimate. For more details on this benchmarking, see Section B.5. The census region–level estimates are also benchmarked and are obtained by taking the population-weighted mean of the associated state-level benchmarked estimates. Associated with each state- and census region–level estimate is a 95 percent Bayesian confidence interval. These intervals indicate the uncertainty in the estimate due to both sampling variability and model fit. For example, the state with the highest estimate of past month use of marijuana for young adults aged 18 to 25 in 2023-2024 was Maine, with an estimate of 40.1 percent and a 95 percent Bayesian confidence interval that ranged from 34.3 to 46.1 percent (see Table 3 of *2023-2024 National Surveys on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)* [CBHSQ, 2025c]). Assuming that sampling and modeling conditions held, the Bayes posterior probability was 0.95 that the true percentage of past month marijuana use in Maine for young adults aged 18 to 25 in 2023-2024 was between 34.3 and 46.1 percent.

The confidence intervals shown in NSDUH state reports are asymmetric (for details, see Section B.5), meaning that the distance between the estimate and the lower confidence limit will not be the same as the distance between the upper confidence limit and the estimate. For example, Utah’s 2023-2024 past month marijuana use estimate is 14.6 percent for young adults aged 18 to 25, with a 95 percent Bayesian confidence interval equal to 11.4 to 18.5 percent (see Table 3 of the *2023-2024 Model-Based Prevalence Estimates* [CBHSQ, 2025c]). Therefore,

Utah’s estimate is 3.2 (i.e., 14.6 – 11.4) percentage points from the lower 95 percent confidence limit and 3.9 (i.e., 18.5 – 14.6) percentage points from the upper 95 percent confidence limit. These asymmetric confidence intervals work well for small percentages often found in NSDUH state estimate tables and reports while still being appropriate for larger percentages.

When it is indicated that a state has the highest or lowest estimate, it does not imply that the state’s estimate is significantly higher or lower than the next highest or lowest state’s estimate. Additionally, two significantly different state estimates (at the 5 percent level of significance) may have overlapping 95 percent confidence intervals. For details on a more accurate test to compare state estimates, see *2023-2024 National Surveys on Drug Use and Health: Comparison of Population Percentages from the United States, Census Regions, States, and the District of Columbia* (CBHSQ, forthcoming a).

A.5 Related Measures

State estimates are produced for a number of related measures, such as marijuana use in the past month and illicit drug use in the past month, or SMI and AMI. It might appear that one could draw conclusions by subtracting one from the other (e.g., subtracting the percentage who misused prescription opioids in the past year, from the percentage who misused opioids in the past year to find the percentage who used only heroin in the past year but did not misuse prescription opioids). Because related measures have been estimated separately with different models, subtracting the percentage of one measure from the percentage of another related measure at the state or census region level can give misleading results, perhaps even a “negative” estimate, and should be avoided. Users are advised to view the estimates along with their respective confidence intervals to get a better idea of the range in which the “true” value of the population percentage might fall (see Section A.4 for more details).

However, at the national level (total U.S.), because these estimates are design-based estimates, such comparisons can be made. For example, at the national level, subtracting estimates for cigarette use in the past month from the estimates of tobacco use in the past month will give the estimate of people who did not use cigarettes in the past month but only used other forms of tobacco, such as cigars, pipes, or smokeless tobacco, in the past month.

Section B: State Model-Based Estimation Methodology

B.1 General Model Description

The state small area estimation (SAE) model is a complex mixed¹⁵ (including both fixed and random effects) logistic regression model of the following form:

$$\log[\pi_{aijk} / (1 - \pi_{aijk})] = x'_{aijk} \beta_a + \eta_{ai} + v_{aij},$$

where π_{aijk} is the probability of engaging in the behavior of interest (e.g., using marijuana in the past month) for person- k belonging to age group- a in grouped state sampling region (SSR)- j of state- i .¹⁶ Let x_{aijk} denote a $p_a \times 1$ vector of predictor variables (independent variables or fixed effects) associated with age group- a (12 to 17, 18 to 25, 26 to 34, and 35 or older) and β_a denote the associated vector of the regression parameters. The age group-specific vectors of the auxiliary variables are defined for every block group in the nation and include person-level demographic variables, such as race/ethnicity and sex.¹⁷ The vectors of state-level random effects $\eta_i = (\eta_{1i}, \dots, \eta_{Ai})'$ and grouped SSR-level random effects $v_{ij} = (v_{1ij}, \dots, v_{Aij})'$ are assumed to be mutually independent and normally distributed with mean vector 0 and variance-covariance matrices D_η and D_v , respectively—that is, $\eta_i \sim N_A(0, D_\eta)$ and $v_{ij} \sim N_A(0, D_v)$, where A is the total number of individual age groups modeled (generally, $A = 4$). For hierarchical Bayes (HB) estimation purposes, an improper uniform prior distribution is assumed for β_a , and proper Wishart prior distributions are assumed for D_η^{-1} and D_v^{-1} . The HB solution for π_{aijk} involves a series of complex Markov Chain Monte Carlo (MCMC) steps to

¹⁵ The use of mixed models (fixed and random effects) allows additional error components (random effects) to be included. These account for differences between states and within-state variations that are not taken into account by the predictor variables (fixed effects) alone. It is also difficult (if not impossible) to produce valid mean squared errors (MSEs) for small area estimates based solely on a fixed-effect national regression model (i.e., synthetic estimation) (Rao, 2003, p. 52). The mixed models produce estimates that are approximately represented by a weighted combination of the direct estimate from the state data and a regression estimate from the national model. The regression coefficients of the national model are estimated using data from all of the states (i.e., borrowing strength), and the regression estimate for a particular state is obtained by applying the national model to the state-specific predictor data. The regression estimate for the state is then combined with the direct estimate from the state data in a weighted combination where the weights are obtained by minimizing the MSE (variance + squared bias) of the small area estimate.

¹⁶ To increase the precision of the estimated random effects at the within-state level, three SSRs from the 2023 and 2024 samples were grouped together to form 250 grouped SSRs. California had 12 grouped SSRs; Florida, New York, and Texas each had 10 grouped SSRs; Illinois, Michigan, Ohio, and Pennsylvania each had 8 grouped SSRs; Georgia, New Jersey, North Carolina, and Virginia each had 5 grouped SSRs; and the rest of the states and the District of Columbia each had 4 grouped SSRs.

¹⁷ Per [Executive Order 14168](#), the term “gender” was replaced with “sex” in this report. Therefore, in some cases, the term may not reflect the wording used in the questionnaire itself.

generate values of the desired fixed and random effects from the underlying joint posterior distribution. The basic process is described in Folsom and colleagues (1999), Shah and colleagues (2000), and Wright (2003a, 2003b).

Once the required number of MCMC samples (1,250 in all) for the parameters of interest are generated and tested for convergence properties (see Raftery & Lewis, 1992), the small area estimates for each race/ethnicity × sex cell within a block group can be obtained for each age group as described in Wright (2003b). These block group–level small area estimates then can be aggregated using the appropriate population count projections for the desired age group(s) to form state-level small area estimates. These state-level small area estimates are benchmarked to the national design-based estimates as described in Section B.5.

B.2 Measures (Outcomes) Modeled

The following list contains all binary (0,1) measures for which age group–specific state estimates were produced. Estimates are generally produced for persons aged 12 to 17, 18 to 25, 26 or older, 18 or older, and 12 or older.

For measures #6, #27 to #29, and #34 listed as follows, only data from the 2024 National Survey on Drug Use and Health (NSDUH) were used, and for all other measures, 2023-2024 combined NSDUH data were used to produce estimates. The 2022-2023 and the 2023-2024 state estimates were also compared for all measures with these exceptions:¹⁸ illicit drug use other than marijuana in the past month (#6), prescription opioid misuse in the past year (#13), opioid misuse in the past year (#14), prescription opioid use disorder (#25), opioid use disorder (#26), all substance use treatment measures (#27 to #29), and received mental health treatment measure (#34).

1. illicit drug use in the past month,
2. marijuana use in the past year,
3. marijuana use in the past month,
4. perceptions of great risk from smoking marijuana once a month,
5. first use of marijuana in the past year among people at risk for initiation of marijuana use,¹⁹
6. illicit drug use other than marijuana in the past month,
7. cocaine use in the past year,
8. perceptions of great risk from using cocaine once a month,
9. heroin use in the past year,
10. perceptions of great risk from trying heroin once or twice,
11. hallucinogen use in the past year,

¹⁸ In these cases, comparable 2022-2023 state estimates are not available.

¹⁹ For details on how this outcome is calculated, see Section B.8 of this document.

12. methamphetamine use in the past year,
13. prescription opioid misuse in the past year,
14. opioid misuse in the past year,
15. alcohol use in the past month,²⁰
16. binge alcohol use in the past month,²⁰
17. perceptions of great risk from having five or more drinks of an alcoholic beverage once or twice a week,²⁰
18. tobacco product use in the past month,²⁰
19. cigarette use in the past month,²⁰
20. nicotine vaping in the past month,
21. perceptions of great risk from smoking one or more packs of cigarettes per day,
22. substance use disorder (SUD) in the past year,
23. alcohol use disorder in the past year,²⁰
24. drug use disorder in the past year,
25. prescription opioid use disorder in the past year,
26. opioid use disorder in the past year,
27. received substance use treatment in the past year,
28. classified as needing substance use treatment in the past year,
29. did not receive substance use treatment in the past year among people classified as needing treatment,
30. any mental illness (AMI) in the past year,
31. serious mental illness (SMI) in the past year,
32. co-occurring SUD and AMI in the past year,
33. co-occurring SUD and SMI in the past year,
34. received mental health treatment in the past year,
35. major depressive episode (MDE) in the past year,
36. had serious thoughts of suicide in the past year,
37. made any suicide plans in the past year, and
38. attempted suicide in the past year.

²⁰ Estimates for underage (aged 12 to 20) substance use were also produced.

B.3 Predictors Used in Mixed Logistic Regression Models

Local area data used as potential predictor variables in the mixed logistic regression models were obtained from the following sources:

- *Claritas*. Claritas²¹ population projections are used to update age group, sex, and race/ethnicity predictor variables each year.
- *U.S. Census Bureau*. The 2010 census (demographic and geographic variables) and 2021 food stamp participation estimates were used (see the [SAIPE Model Input Data](#) web page). The Census Bureau's SAIPE program obtains Food Stamp program (now known as the Supplemental Nutrition Assistance Program) participation estimates from the U.S. Department of Agriculture, Food and Nutrition Service. Also, the Census Bureau's 2015-2019 American Community Survey 5-year demographic and socioeconomic variables at the tract level and poverty variable at the county level were used (see the [Census Bureau American Community Survey](#) web page).
- *Federal Bureau of Investigation*. Uniform Crime Report arrest totals were obtained from the [National Archive of Criminal Justice Data](#) web page. The most current data used are from 2016 for most counties, with prior years' data substituted in a few cases.
- *Bureau of Labor Statistics (BLS)*. The 2023 and 2024 county-level unemployment estimates were used (see the [BLS Local Area Unemployment Statistics](#) web page). The BLS uses results from the Current Population Survey (CPS) to provide county-level unemployment estimates. The CPS is a monthly survey of households conducted by the Census Bureau for the BLS.
- *Bureau of Economic Analysis (BEA)*. The 2022 and 2023 county-level, per capita income estimates were used (see the [BEA Personal Income by County, Metro, and Other Areas](#) web page). These county-level, per capita income estimates are produced by the Regional Income Division of BEA.
- *National Center for Health Statistics (NCHS)*. Mortality data using International Classification of Diseases, 10th revision (ICD-10), 2014-2019 and 2015-2020, were used. The ICD-10 death data are from the NCHS at the Centers for Disease Control and Prevention.
- *Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality (CBHSQ; formerly the Office of Applied Studies [OAS])*. Data were used from the National Substance Use and Mental Health Services Survey (N-SUMHSS). The 2019 and 2021 data on drug and alcohol treatment were obtained. Most recent data available on maintenance of effort expenditures, block grant awards, cost of services, and total taxable resources data were also used.

²¹ [Claritas](#) is a market research firm headquartered in Cincinnati, Ohio.

Data sources, along with the description of potential predictor variables obtained from each source, are provided in the following lists. The predictor variables used in the SAE models were selected from the set of potential predictors given below using the method described in Section B.4.

Claritas Data (Description)	Claritas Data (Level)
% Population Aged 0 to 19 in Block Group	Block Group
% Population Aged 20 to 24 in Block Group	Block Group
% Population Aged 25 to 34 in Block Group	Block Group
% Population Aged 35 to 44 in Block Group	Block Group
% Population Aged 45 to 54 in Block Group	Block Group
% Population Aged 55 to 64 in Block Group	Block Group
% Population Aged 65 or Older in Block Group	Block Group
% Non-Hispanic Blacks in Block Group	Block Group
% Hispanics in Block Group	Block Group
% Non-Hispanic Other Races in Block Group	Block Group
% Non-Hispanic Whites in Block Group	Block Group
% Males in Block Group	Block Group
% American Indians, Eskimos, Aleuts in Tract	Tract
% Asians, Pacific Islanders in Tract	Tract
% Population Aged 0 to 19 in Tract	Tract
% Population Aged 20 to 24 in Tract	Tract
% Population Aged 25 to 34 in Tract	Tract
% Population Aged 35 to 44 in Tract	Tract
% Population Aged 45 to 54 in Tract	Tract
% Population Aged 55 to 64 in Tract	Tract
% Population Aged 65 or Older in Tract	Tract
% Non-Hispanic Blacks in Tract	Tract
% Hispanics in Tract	Tract
% Non-Hispanic Other Races in Tract	Tract
% Non-Hispanic Whites in Tract	Tract
% Males in Tract	Tract
% Population Aged 0 to 19 in County	County
% Population Aged 20 to 24 in County	County
% Population Aged 25 to 34 in County	County
% Population Aged 35 to 44 in County	County
% Population Aged 45 to 54 in County	County
% Population Aged 55 to 64 in County	County
% Population Aged 65 or Older in County	County
% Non-Hispanic Blacks in County	County
% Hispanics in County	County
% Non-Hispanic Other Races in County	County
% Non-Hispanic Whites in County	County
% Males in County	County

<i>American Community Survey (ACS) (Description)</i>	<i>ACS Data (Level)</i>
% Population Who Dropped Out of High School	Tract
% Housing Units Built in 1940 to 1949	Tract
% Females 16 Years or Older in Labor Force	Tract
% Females Never Married	Tract
% Females Separated, Divorced, Widowed, or Other	Tract
% One-Person Households	Tract
% Males 16 Years or Older in Labor Force	Tract
% Males Never Married	Tract
% Males Separated, Divorced, Widowed, or Other	Tract
% Housing Units Built in 1939 or Earlier	Tract
Average Number of People per Room	Tract
% Families below Poverty Level	Tract
% Households with Public Assistance Income	Tract
% Housing Units Rented	Tract
% Population with 9 to 12 Years of School, No High School Diploma	Tract
% Population with 0 to 8 Years of School	Tract
% Population with Associate's Degree	Tract
% Population with Some College and No Degree	Tract
% Population with Bachelor's, Graduate, Professional Degree	Tract
% Housing Units with No Telephone Service Available	Tract
% Households with No Vehicle Available	Tract
% Population with No Health Insurance	Tract
Median Rents for Rental Units	Tract
Median Value of Owner-Occupied Housing Units	Tract
Median Household Income	Tract
% Families below the Poverty Level	County

<i>Uniform Crime Report (UCR) Data (Description)</i>	<i>UCR Data (Level)</i>
Drug Possession Arrest Rate	County
Drug Sale or Manufacture Arrest Rate	County
Drug Violations' Arrest Rate	County
Marijuana Possession Arrest Rate	County
Marijuana Sale or Manufacture Arrest Rate	County
Opium or Cocaine Possession Arrest Rate	County
Opium or Cocaine Sale or Manufacture Arrest Rate	County
Other Drug Possession Arrest Rate	County
Other Dangerous Non-Narcotics Arrest Rate	County
Serious Crime Arrest Rate	County
Violent Crime Arrest Rate	County
Driving under Influence Arrest Rate	County

<i>Other Categorical Data (Description)</i>	<i>Other Categorical Data (Source)</i>	<i>Other Categorical Data (Level)</i>
= 1 if Hispanic, = 0 Otherwise	National Survey on Drug Use and Health (NSDUH) Sample	Person
= 1 if Non-Hispanic Black, = 0 Otherwise	NSDUH Sample	Person
= 1 if Non-Hispanic Other, = 0 Otherwise	NSDUH Sample	Person
= 1 if Male, = 0 if Female	NSDUH Sample	Person
= 1 if Metropolitan Statistical Area (MSA) with ≥ 1 Million, = 0 Otherwise	2010 Census	County
= 1 if MSA with < 1 Million, = 0 Otherwise	2010 Census	County
= 1 if Non-MSA Urban, = 0 Otherwise	2010 Census	Tract
= 1 if Urban Area, = 0 if Rural Area	2010 Census	Tract
= 1 if No Cubans in Tract, = 0 Otherwise	2010 Census	Tract
= 1 if No Arrests for Dangerous Non-Narcotics, = 0 Otherwise	Uniform Crime Report (UCR)	County
= 1 if No Arrests for Opium or Cocaine Possession, = 0 Otherwise	UCR	County
= 1 if No Housing Units Built in 1939 or Earlier, = 0 Otherwise	American Community Survey (ACS)	Tract
= 1 if No Housing Units Built in 1940 to 1949, = 0 Otherwise	ACS	Tract
= 1 if No Households with Public Assistance Income, = 0 Otherwise	ACS	Tract

<i>Miscellaneous Data (Description)</i>	<i>Miscellaneous Data (Source)</i>	<i>Miscellaneous Data (Level)</i>
Alcohol Death Rate, Underlying Cause	National Center for Health Statistics' International Classification of Diseases, 10th revision (NCHS-ICD-10)	County
Cigarette Death Rate, Underlying Cause	NCHS-ICD-10	County
Drug Death Rate, Underlying Cause	NCHS-ICD-10	County
Alcohol Treatment Rate	National Substance Use and Mental Health Services Survey (N-SUMHSS)	County
Alcohol and Drug Treatment Rate	N-SUMHSS	County
Drug Treatment Rate	N-SUMHSS	County
Unemployment Rate	Bureau of Labor Statistics (BLS)	County
Per Capita Income (in Thousands)	Bureau of Economic Analysis (BEA)	County
Average Suicide Rate (per 10,000)	NCHS-ICD-10	County
Food Stamp Participation Rate	Census Bureau	County
Single State Agency Maintenance of Effort	National Association of State Alcohol and Drug Abuse Directors (NASADAD)	State
Block Grant Awards	Substance Abuse and Mental Health Services Administration (SAMHSA)	State
Cost of Services Factor Index	SAMHSA	State
Total Taxable Resources per Capita Index	U.S. Department of Treasury	State
% Hispanics Who Are Cuban	2010 Census	Tract

B.4 Selection of Predictor Variables for the SAE Models

For the four new measures (#13, #14, #25, #26) described in Section B.2, predictor variable selection was conducted using the 2023-2024 data. For the five single-year outcomes (#6, #27, #28, #29, #34), predictor selection was based on 2024 data. For all remaining outcomes, no new variable selection was performed; instead, updated versions of the predictors used in generating the 2022-2023 state small area estimates were used to produce the 2023-2024 estimates. A multistep process²² was followed to identify significant predictors. In the selection process based on the combined 2023-2024 sample, the dataset was partitioned into modeling and validation samples. Steps 1 through 3 were executed on the modeling sample, and step 4 was conducted using the validation sample. For the selection process based solely on the 2024 sample, all four steps were performed on the complete dataset.

1. For each measure, age group–specific²³ SAS[®] stepwise logistic regression models were fit (SAS Institute Inc., 2017). The input list to these models included all linear polynomials (constructed from continuous predictor variables) and other categorical or indicator variables given in Section B.3. All significant predictors were input to step 2.
2. All significant predictors from step 1 then were input to PROC HPSPLIT to identify significant complex (at most three-way) interaction terms. PROC HPSPLIT is a SAS procedure that uses decision-tree algorithms to build classification systems. The exhaustive chi-squared automatic interaction detector algorithm was used to create the trees.
3. All the significant variables from step 1, along with their corresponding higher-order polynomials (quadratic and cubic), interaction of sex and race, and the significant interactions detected by PROC HPSPLIT in step 2 then were input to SAS stepwise logistic regression models. All predictors that remained significant then were input to step 4 of variable selection.
4. All significant variables from step 3 were input to fit SUDAAN (RTI International, 2020) logistic regression models, and predictors that remained significant were used in the SAE models described in Section B.1. The race and sex predictors were forced in most of the models.

B.5 Benchmarking the Age Group–Specific Small Area Estimates

The self-calibration built into the survey-weighted hierarchical Bayes (SWHB) solution ensures the population-weighted average of the state small area estimates will closely match the national design-based estimates. The national design-based estimates in NSDUH are based entirely on survey-weighted data using a direct estimation approach, whereas the state and census region estimates are model based.

²² Depending on the step, measure, and age group, significance levels were 1, 3, 5, or 10 percent.

²³ Generally, age groups are 12 to 17, 18 to 25, 26 to 34, and 35 or older. For underage alcohol and tobacco related outcomes, the age group is 12 to 20.

Singh and Folsom (2001) extended Ghosh’s (1992) results on constrained Bayes estimation to include exact benchmarking to design-based national estimates. In the simplest version of this constrained Bayes solution, where only the design-based mean is imposed as a benchmarking constraint, each of the 2023-2024 state-by-age group small area estimates is adjusted by adding the common factor $\Delta_a = (D_a - P_a)$, where D_a is the design-based national estimate and P_a is the population-weighted mean of the state small area estimates (P_{sa}) for age group- a . The exactly benchmarked state- s and age group- a small area estimates then are given by $\theta_{sa} = P_{sa} + \Delta_a$. Experience with such additive adjustments suggests that the resulting exactly benchmarked state small area estimates will always be between 0 and 100 percent because the SWHB self-calibration ensures that the adjustment factor is small relative to the size of the state-level small area estimates.

Relative to the Bayes posterior mean, these benchmark-constrained state small area estimates are biased by the common additive adjustment factor. Therefore, the posterior mean squared error for each benchmarked state small area estimate has the square of this adjustment factor added to its posterior variance. To achieve the desirable feature of exact benchmarking, this constrained Bayes adjustment factor was implemented for the state-by-age group small area estimates. The associated Bayesian confidence (credible) intervals can be recentered at the benchmarked small area estimates on the logit scale with the symmetric interval end points based on the posterior root mean squared errors. The adjusted 95 percent Bayesian confidence intervals ($Lower_{sa}, Upper_{sa}$) are defined as follows:

$$Lower_{sa} = \exp(L_{sa}) / [1 + \exp(L_{sa})] \text{ and } Upper_{sa} = \exp(U_{sa}) / [1 + \exp(U_{sa})],$$

where

$$L_{sa} = \ln[\theta_{sa} / (1 - \theta_{sa})] - 1.96 * \sqrt{MSE_{sa}},$$

$$U_{sa} = \ln[\theta_{sa} / (1 - \theta_{sa})] + 1.96 * \sqrt{MSE_{sa}}, \text{ and}$$

$$MSE_{sa} = (\ln[P_{sa} / (1 - P_{sa})] - \ln[\theta_{sa} / (1 - \theta_{sa})])^2 + \text{posterior variance of } \ln[P_{sa} / (1 - P_{sa})].$$

The associated posterior coverage probabilities for these benchmarked intervals are very close to the prescribed 0.95 value because the state small area estimates have posterior distributions that can be approximated exceptionally well by a Gaussian distribution after the logit transformation.

B.6 Calculation of Estimated Number of People Associated with Each Outcome

Tables 1 to 41 of *2023-2024 National Surveys on Drug Use and Health: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)* (CBHSQ, forthcoming b) show the estimated numbers of people associated with each of the 38 measures of interest. To calculate these numbers, the benchmarked small area estimates and associated 95 percent Bayesian confidence intervals are multiplied by the average population across the 2 years (in this

case, 2023 and 2024) of the state by the age group of interest ([Tables C.1 to C.6](#) in Section C of this methodology document). For estimates based only on 2024 data, the corresponding 2024 population counts can be used.

For example, alcohol use in the past month among 18- to 25-year-olds in Alabama was 45.87 percent in 2023-2024.²⁴ The corresponding Bayesian confidence intervals ranged from 41.39 to 50.42 percent. The population count for 18- to 25-year-olds averaged across 2023 and 2024 in Alabama was 537,932 (see [Table C.4](#)). Hence, the estimated number of 18- to 25-year-olds using alcohol in the past month in Alabama was $0.4587 \times 537,932$, which is 246,749.²⁵ The associated Bayesian confidence intervals ranged from $0.4139 \times 537,932$ (i.e., 222,650) to $0.5042 \times 537,932$ (i.e., 271,225). Note that when estimates of the number of people are calculated for Tables 1 to 41 in the 2023-2024 Model-Based Estimated Totals report (CBHSQ, forthcoming b), the unrounded percentages and population counts are used, then the numbers are reported to the nearest thousand. Hence, the number obtained by multiplying the published estimate with the published population estimate may not exactly match the counts published in these tables because of rounding differences.

The only two exceptions to this calculation are the production of the estimated numbers of marijuana initiates among the population at risk and the estimated number of those not receiving substance use treatment among those classified as needing treatment. Those estimates cannot be directly calculated as the product of the percentage estimate and the population counts available in Section C. That is because the denominator of the marijuana initiation percentage estimate is defined as the number of people at risk for marijuana initiation, which is a combination of people who never used marijuana and one half of the people who initiated in the past 24 months (see Section B.8 for more details). The denominator of those not receiving substance use treatment who were classified as needing treatment percentage estimate is defined as the number of people classified as needing substance use treatment (see Section B.11 for details).

B.7 Calculation of Aggregate Age Group Estimates and Limitations

Tables 1 to 41 of *2023-2024 National Surveys on Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)* (CBHSQ, 2025c) show estimates for the following age groups: 12 to 17, 18 to 25, 26 or older, 18 or older, and 12 or older. If a user was interested in producing aggregated estimates, such as for those aged 12 to 25, the aggregated estimates could be calculated using prevalence estimates along with the population totals shown in Section C of this document. However, with the information provided in the tables, the confidence intervals cannot be calculated. Below is an example of the calculation of aggregated estimate for a given state.

In 2023-2024, alcohol use in the past month in Alabama among youths aged 12 to 17 was 6.51 percent, and among young adults aged 18 to 25 it was 45.87 percent.²⁶ The population counts for 12- to 17-year-olds and 18- to 25-year-olds averaged across 2023 and 2024 in

²⁴ See Table 15 in *2023-2024 National Surveys of Drug Use and Health: Model-Based Prevalence Estimates (50 States and the District of Columbia)* (CBHSQ, 2025c).

²⁵ See Table 15 in the 2023-2024 Model-Based Estimated Totals report (CBHSQ, forthcoming b).

²⁶ See Table 15 in the 2023-2024 Model-Based Prevalence Estimates report (CBHSQ, 2025c).

Alabama were 398,626 and 537,932, respectively (see [Table C.4](#)). Hence, one would calculate the estimate for people aged 12 to 25 by first finding the number of users aged 12 to 25, which is $272,700 = ([0.0651 \times 398,626] + [0.4587 \times 537,932])$, then dividing that number by the population aged 12 to 25 ($272,700 / [398,626 + 537,932]$), which results in a rate of 29.12 percent.

B.8 Calculation of Initiation of Marijuana Use

Initiation²⁷ rates typically are calculated as the number of new initiates of a substance during a period of time (such as in the past year) divided by an estimate of the number of person-years of exposure (in thousands). The initiation definition used here employs a simpler form of the at-risk population based on the model-based methodology. This model-based initiation rate (i.e., first use of marijuana in the past year among people at risk for initiation of marijuana use) is defined as follows:

$$\text{Average annual rate} = 100 * \{ [X_1 \div (0.5 * X_1 + X_2)] \div 2 \},$$

where X_1 is the number of marijuana initiates in the past 24 months, X_2 is the number of people who never used marijuana, and $(0.5 * X_1 + X_2)$ denotes the at-risk population.

The initiation rate is expressed as a percentage or rate per 100 person-years of exposure. Note that this estimate uses a 2-year time period to accumulate initiation cases from the annual survey. By assuming further that the distribution of first use for the initiation cases is uniform across the 2-year interval, the total number of person-years of exposure is 1 year on average for the initiation cases plus 2 years for all the “never users” at the end of the time period. This approximation to the person-years of exposure permits one to recast the initiation rate as a function of two population prevalence rates—namely, the fraction of people who first used marijuana in the past 2 years and the fraction who had never used marijuana. State and census region estimates, along with the 95 percent Bayesian confidence intervals, are based on simultaneous modeling of X_1 and X_2 components using the SWHB SAE approach. The associated MCMC chains were used to calculate the posterior variance.

B.9 Underage Estimates

To obtain small area estimates for people aged 12 to 20 for past month alcohol use, binge alcohol use, perceptions of great risk from having five or more drinks of an alcoholic beverage once or twice a week, alcohol use disorder, past month tobacco product use, and past month cigarette use, a separate set of SAE models with predictors selected for the age groups 12 to 17, 18 to 20, 21 to 34, and 35 or older were used. Model-based estimates for people aged 12 to 20 were produced by taking the population-weighted average of the individual age group (12 to 17 and 18 to 20) estimates. Estimates for these underage outcomes were benchmarked to match national design-based estimates for that age group using the process described in Section B.5.

²⁷ In NSDUH SAE documents prior to 2016-2017, the term “initiation” was referred to as “incidence.”

B.10 Substance Use Disorder (SUD)

The NSDUH questionnaire includes questions to measure SUDs for alcohol and drugs. SUD estimates in the 2023 and 2024 NSDUHs were based on the criteria in the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (DSM-5; American Psychiatric Association [APA], 2013). For information about the SUD definitions based on criteria from DSM-5, see Section 3.4.7 of CBHSQ (2025b). Respondents were asked SUD questions separately for any drugs or alcohol they used in the 12 months prior to the survey.²⁸ SUD questions for drugs applied to marijuana, cocaine (including crack), heroin, hallucinogens, inhalants, methamphetamine, and *any* use of prescription pain relievers, tranquilizers, stimulants, or sedatives.

The following lists the substances that are included in selected SUD measures in the 2023-2024 NSDUH state small area estimates:

- Any SUD in the past year includes data from past year users of alcohol, marijuana, cocaine (including crack), heroin, hallucinogens, inhalants, and methamphetamine, and *any* past year users of prescription psychotherapeutic drugs.
- Alcohol use disorder includes only data from past year users of alcohol.
- Prescription opioid use disorder includes data from *any* past year users of prescription opioids who met the criteria for pain reliever use disorder.
- Drug use disorder includes data from past year users of marijuana, cocaine, heroin, hallucinogens, inhalants, and methamphetamine, and *any* past year users of prescription psychotherapeutic drugs. It does not include people who had an alcohol use disorder in the past year.
- Opioid use disorder includes data from past year users of heroin and *any* past year users of prescription opioids. Beginning with the 2024 NSDUH, respondents were not counted as having an opioid use disorder in the past year if they used prescription pain relievers but not prescription opioids in the past year and they did not use heroin in the past year. For additional details on opioid use disorder changes, please refer to Section 3.4.7.2.1 of CBHSQ (2025b). Respondents were not counted as having an opioid use disorder if they did not meet the full SUD criteria for heroin or prescription opioid individually. The opioid use disorder estimates do not capture symptoms that arose solely from the use of illegally made fentanyl.

B.11 Substance Use Treatment

The substance use treatment questions underwent considerable revisions for the 2022 NSDUH. These questions remained the same for 2023. Revisions for 2022 were intended to reflect contemporary changes in the delivery of substance use treatment services. New follow-up questions were added to the 2024 NSDUH for respondents who reported that they received treatment in an inpatient or outpatient location, but they did not report any substances for which

²⁸ NSDUH respondents were asked the respective questions for alcohol use disorder or marijuana use disorder if they reported use of these substances on 6 or more days in the past year. Respondents were asked SUD questions for other substances if they reported any use in the past year.

they received treatment. These respondents were given a second opportunity to specify the substances for which they received inpatient or outpatient treatment or to enter “None” if they did not receive treatment. Starting in June 2024, additional changes were included in the questionnaire to improve respondent understanding of whether they received treatment for their use of alcohol or drugs at specific inpatient or outpatient locations. For information about these changes from 2022 and 2024, see Section 3.4.8 of CBHSQ (2025b).

Because of these changes in 2022, the definition for the receipt of substance use treatment changed beginning in 2022. Receipt of substance use treatment includes the receipt of treatment in the past year for the use of alcohol or drugs in an inpatient location; in an outpatient location; via telehealth; or in a prison, jail, or juvenile detention center. The definition also includes the receipt of medications for alcohol use disorder or medications for opioid use disorder. Analysis of the data from June to December 2024 indicated that the changes implemented in June 2024 not only reduced the number of respondents who did not report the specific substances for which they received inpatient or outpatient treatment but also affected reporting of the receipt of treatment in inpatient and outpatient locations. As a consequence of these changes, substance use treatment estimates overall and for inpatient or outpatient locations from 2024 are not comparable with those from 2022 and 2023. Thus, the state small area estimates for all substance use treatment measures in this report use only the 2024 data.

In 2024, relatively large proportions of people who reported that they received inpatient or outpatient treatment in the past 12 months did not indicate the specific substance(s) for which they received treatment in these locations, including treatment for the use of some other drug. Stated another way, these reports of inpatient or outpatient treatment were not substantiated by reports of treatment for the use of specific substances. Specifically, about one quarter of respondents who reported inpatient treatment in the past year did not report the specific substances for which they received treatment as inpatients. Among respondents who reported outpatient treatment in the past year, about one third did not report the specific substances for which they received treatment as outpatients. A “substance unspecified” category was created for these respondents. If respondents in this “substance unspecified” group did not actually receive substance use treatment, then estimates for any substance use treatment and for inpatient or outpatient substance use treatment could be overestimates. Thus, estimates for the overall substance use treatment measure could be overestimates.

Historically, NSDUH data products have included substance use treatment at a “specialty facility” in the past year as part of the definition for whether people needed substance use treatment. With the changes to the questionnaire in 2022, the term “specialty facility” was dropped from 2022 NSDUH data products. Consequently, the definition of the need for substance use treatment was revised beginning with the 2022 NSDUH. Respondents were classified as needing substance use treatment if they had an SUD in the past year or they received substance use treatment in the past year. The percentage of people not receiving substance use treatment among those classified as needing treatment is defined as follows:

$$100 * X_1 / (X_1 + X_2),$$

where X_1 is the number of people not receiving treatment who needed treatment, X_2 is the number of people receiving treatment who needed treatment, and $(X_1 + X_2)$ denotes the number of people who needed treatment. State and census region estimates, along with the 95 percent Bayesian confidence intervals, are based on simultaneous modeling of X_1 and X_2 components using the SWHB SAE approach. The associated MCMC chains were used to calculate the posterior variance.

For more information about the substance use treatment outcomes, see Section 3.4.8 of CBHSQ (2025b).

B.12 Mental Health Measures

Sections 3.4.9, 3.4.10, 3.4.12, and 3.4.13 of CBHSQ (2025b) provide a summary of the measurement issues associated with seven mental health outcome variables such as mental illness, mental health treatment, MDE, and suicidal thoughts and behaviors.

B.12.1 Mental Illness

The binary (0, 1) SMI and AMI measures are generated (predicted) by a logistic regression model where parameter estimates from the 2012 model and annually updated associated predictors from NSDUH (i.e., responses to questions in the NSDUH) are used to predict the respondent's SMI (or AMI) status. The predicted SMI (or AMI) status for all adult NSDUH respondents was used to compute prevalence estimates of SMI (or AMI) nationally as well as at the state level. For details on the 2012 model, see Section 3.4.9.8 of CBHSQ (2025b). Note that starting from 2021, the measures used in the mental illness models were all imputed. Therefore, the source variables (i.e., 2012 model covariate) used to create the measures of AMI and SMI had no missing data.

B.12.2 Mental Health Treatment

The mental health treatment questions underwent considerable revisions for the 2022 NSDUH; these questions remained the same for 2023. Revisions for 2022 were intended to reflect contemporary changes in the delivery of mental health treatment services. The changes also made the content more similar between the alcohol and drug treatment and the mental health services utilization sections of the questionnaire. Starting in June 2024, additional changes were included in the questionnaire to improve respondent understanding of whether they received treatment for their mental health, emotions, or behavior at specific inpatient or outpatient locations. For information about these changes see Section 3.4.10 of CBHSQ (2025b).

Because of these changes, the definition for the receipt of mental health treatment changed again in 2024, and estimates from 2022 and 2023 were not considered comparable to estimates from 2024. Thus, the state small area estimates for mental health treatment in this report use only the 2024 data. Receipt of mental health treatment includes the receipt of treatment in the past year to help people with their mental health, emotions, or behavior that was received in an inpatient location; in an outpatient location; via telehealth; or in a prison, jail, or juvenile detention center. The definition also includes the receipt of prescription medication to help with mental health, emotions, or behavior.

B.12.3 Major Depressive Episode (MDE)

Two sections related to MDE were included in the NSDUH questionnaires: an adult depression section and an adolescent depression section. These sections were originally derived from *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition criteria for MDE and remained applicable to the more recent DSM-5 criteria (APA, 1994; 2013). Consistent with the DSM-5 criteria, NSDUH does not exclude MDEs occurring exclusively in the context of bereavement. In addition, no exclusions were made for MDEs caused by medication, alcohol, illicit drugs, or any medical illness. For information about the differences in the adult and adolescent depression questions, see Section 3.4.12 of CBHSQ (2025b).

According to DSM-5, people are classified as having had an MDE²⁹ in their lifetime if they had at least five or more of the following symptoms nearly every day (except where noted) in the same 2-week period, where at least one of the symptoms is a depressed mood or loss of interest or pleasure in daily activities: (1) depressed mood most of the day; (2) markedly diminished interest or pleasure in all or almost all activities most of the day; (3) significant weight loss when not sick or dieting, or weight gain when not pregnant or growing, or decrease or increase in appetite; (4) insomnia or hypersomnia; (5) psychomotor agitation or retardation at a level observable by others; (6) fatigue or loss of energy; (7) feelings of worthlessness or excessive or inappropriate guilt; (8) diminished ability to think or concentrate or indecisiveness; and (9) recurrent thoughts of death or suicidality (i.e., recurrent suicidal ideation without a specific plan, making a specific plan, or making an attempt). Unlike the other symptoms listed previously, recurrent thoughts of death or suicidality did not need to have occurred nearly every day (APA, 2013).

Respondents who have had an MDE in their lifetime are asked if, during the past 12 months, they had a period of depression lasting 2 weeks or longer while also having some of the other symptoms mentioned. Respondents reporting experiences consistent with them having had an MDE in the past year are asked questions from the Sheehan Disability Scale to measure the level of functional impairment in major life activities reported to be caused by the MDE in the past 12 months (Leon et al., 1997).

B.12.4 Suicidal Thoughts and Behavior

The 2023 and 2024 NSDUHs included sets of questions asking adults aged 18 or older whether they had serious thoughts of suicide, made any suicide plans, or had attempted suicide in the past 12 months. All adult respondents were asked whether they made a suicide plan or attempted suicide regardless of whether they reported that they had serious thoughts of suicide in the past 12 months. The two response options were “yes” and “no.” Additionally, beginning in 2021, the adult variables for suicidal thoughts and behaviors among adults were statistically imputed.

Additionally, the 2023 and 2024 NSDUHs included sets of questions that asked youths aged 12 to 17 about the same suicidal thoughts and behaviors. Unlike the questions for adults,

²⁹ “An MDE” refers to the occurrence of at least one MDE, rather than only one MDE. Similarly, reference to “the MDE” in a given period (e.g., the past 12 months) does not mean an individual had only one MDE in that period.

the questions about suicidal thoughts and behavior among youths included response choices for “I’m not sure” and “I don’t want to answer,” in addition to standard response choices of “yes” and “no.”

Estimates for suicidal thoughts and behavior among adolescents in national reports and tables for 2024 included estimates for “I’m not sure,” and “I don’t want to answer,” in addition to estimates for “yes” and “no.” Measures for suicidal thoughts and behavior among adolescents were not statistically imputed for 2023 or 2024. For the 2023-2024 state small area estimates, estimates for suicidal behaviors reflect the percentage that answered “yes” among all respondents. Respondents who answered “no,” “I’m not sure,” and “I don’t want to answer” were grouped together as the “no” category. Thus the 2023-2024 state small area estimates for suicidal behaviors among adolescents may be underestimated.

Section C: Sample Sizes, Response Rates, and Population Estimates

Table C.1 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Screening, Interview, and Overall Response Rates, and Population Estimates: Among People Aged 12 or Older; by State, 2024

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected People	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	1,009,120	927,670	203,740	21.91%	137,170	70,240	288,242,414	51.54%	11.29%
Northeast	220,740	202,390	38,120	17.38%	24,840	12,330	49,736,465	51.97%	9.03%
Midwest	228,340	209,340	48,590	23.71%	32,590	16,660	58,915,850	51.66%	12.25%
South	333,440	306,400	68,810	22.37%	44,900	23,670	111,503,073	52.85%	11.82%
West	226,600	209,540	48,220	22.81%	34,850	17,580	68,087,027	48.94%	11.17%
Alabama	13,150	11,870	4,060	34.08%	2,650	1,250	4,342,535	43.74%	14.91%
Alaska	14,200	12,270	2,470	19.38%	1,730	1,000	596,369	61.38%	11.90%
Arizona	15,910	14,300	2,770	19.33%	1,920	1,050	6,464,937	53.89%	10.41%
Arkansas	11,380	10,100	2,950	28.95%	2,100	1,110	2,583,068	55.20%	15.98%
California	60,940	58,760	11,520	19.10%	9,320	4,520	33,609,216	47.31%	9.04%
Colorado	16,050	14,060	3,120	21.71%	2,010	990	5,088,114	52.90%	11.48%
Connecticut	16,620	15,690	2,830	18.04%	1,640	840	3,170,815	51.51%	9.29%
Delaware	21,090	18,960	3,790	19.73%	2,320	1,100	900,979	48.16%	9.50%
District of Columbia	27,220	26,150	4,340	16.82%	1,680	990	601,286	59.44%	10.00%
Florida	51,790	47,600	9,150	18.76%	5,770	3,020	20,125,830	52.10%	9.77%
Georgia	15,800	15,220	3,250	21.31%	2,590	1,440	9,366,743	50.40%	10.74%
Hawaii	14,860	13,290	2,750	18.31%	2,010	1,010	1,201,541	52.92%	9.69%
Idaho	12,420	11,750	3,520	29.50%	2,500	1,200	1,679,787	44.19%	13.04%
Illinois	46,020	42,900	7,860	18.43%	5,810	2,850	10,824,415	47.97%	8.84%
Indiana	12,680	11,330	2,550	22.63%	1,910	1,040	5,806,630	57.93%	13.11%
Iowa	12,250	11,220	3,240	28.76%	1,960	1,030	2,726,107	53.36%	15.35%
Kansas	11,080	9,860	2,720	27.06%	2,120	1,210	2,466,635	57.60%	15.59%
Kentucky	13,680	12,270	3,240	26.42%	1,960	1,100	3,838,403	58.93%	15.57%
Louisiana	11,560	10,510	2,870	27.37%	1,980	990	3,809,848	48.32%	13.23%
Maine	17,670	14,950	2,970	19.41%	1,710	850	1,231,861	54.01%	10.49%
Maryland	13,390	12,870	2,830	22.05%	2,040	940	5,288,076	45.39%	10.01%
Massachusetts	16,000	14,960	2,380	15.64%	1,610	850	6,199,693	54.42%	8.51%
Michigan	33,920	31,000	7,280	23.47%	4,420	2,350	8,682,638	53.17%	12.48%
Minnesota	13,460	12,610	3,130	24.65%	2,020	990	4,897,993	50.22%	12.38%
Mississippi	11,930	10,650	3,290	31.11%	2,430	1,240	2,456,199	51.30%	15.96%

(continued)

Table C.1 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Screening, Interview, and Overall Response Rates, and Population Estimates: Among People Aged 12 or Older; by State, 2024 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected People	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	13,110	11,890	3,040	25.88%	1,870	980	5,264,916	55.67%	14.41%
Montana	16,430	14,300	2,760	19.16%	1,720	850	972,702	53.77%	10.30%
Nebraska	10,820	9,970	2,600	26.11%	1,990	970	1,663,408	50.52%	13.19%
Nevada	13,240	12,680	3,090	24.04%	2,310	1,250	2,789,623	51.00%	12.26%
New Hampshire	15,180	13,920	3,070	21.88%	1,930	870	1,236,224	48.70%	10.66%
New Jersey	22,720	21,500	4,150	19.38%	3,130	1,540	8,088,286	49.98%	9.69%
New Mexico	13,650	12,380	2,530	19.82%	1,690	920	1,814,102	55.74%	11.05%
New York	57,160	52,760	8,920	16.21%	6,570	3,180	17,065,141	51.21%	8.30%
North Carolina	24,670	22,840	5,030	21.89%	2,920	1,580	9,318,149	52.12%	11.41%
North Dakota	14,530	12,560	2,320	17.60%	1,490	820	655,040	56.16%	9.89%
Ohio	33,440	32,010	7,850	24.51%	5,160	2,450	10,055,897	46.27%	11.34%
Oklahoma	11,930	10,600	2,820	26.52%	1,950	1,060	3,389,090	57.98%	15.38%
Oregon	13,830	13,360	4,090	30.36%	2,480	1,260	3,705,202	49.17%	14.93%
Pennsylvania	39,290	36,210	6,290	17.10%	4,090	2,040	11,207,828	53.26%	9.11%
Rhode Island	17,930	16,210	3,800	22.50%	2,310	1,160	964,200	50.90%	11.45%
South Carolina	14,930	13,450	2,850	21.03%	1,750	920	4,646,890	50.60%	10.64%
South Dakota	12,500	10,820	2,340	21.45%	1,670	860	761,752	57.17%	12.27%
Tennessee	12,910	12,310	3,340	27.25%	2,140	1,000	6,101,746	40.37%	11.00%
Texas	36,990	33,500	6,460	18.93%	5,360	3,130	25,825,060	59.91%	11.34%
Utah	8,480	7,770	2,950	37.57%	2,910	1,460	2,886,299	49.72%	18.68%
Vermont	18,160	16,210	3,720	22.73%	1,860	1,000	572,417	57.21%	13.00%
Virginia	22,220	20,700	5,080	24.59%	3,270	1,730	7,391,540	52.88%	13.00%
Washington	12,870	12,250	4,190	34.02%	2,750	1,210	6,780,788	44.30%	15.07%
West Virginia	18,790	16,800	3,470	20.35%	1,990	1,080	1,517,630	52.85%	10.76%
Wisconsin	14,540	13,170	3,660	27.32%	2,170	1,110	5,110,418	52.61%	14.37%
Wyoming	13,710	12,360	2,470	20.25%	1,520	860	498,347	57.75%	11.69%

DU = dwelling unit.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2024.

Table C.2 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates; by State and Three Age Groups, 2024

State	12-17			12-17 Weighted Interview Response Rate	18-25			18-25 Weighted Interview Response Rate	26+			26+ Weighted Interview Response Rate
	Total Selected People	12-17 Total Responded	12-17 Population Estimate		Total Selected People	18-25 Total Responded	18-25 Population Estimate		Total Selected People	26+ Total Responded	26+ Population Estimate	
Total U.S.	31,210	14,010	25,951,528	45.34%	34,280	16,840	34,946,088	47.87%	71,680	39,390	227,344,798	52.82%
Northeast	5,210	2,140	4,079,347	38.02%	6,220	2,940	5,907,727	46.54%	13,410	7,250	39,749,391	54.23%
Midwest	7,420	3,130	5,409,796	42.39%	8,390	4,090	7,289,788	45.98%	16,770	9,440	46,216,266	53.66%
South	10,790	5,130	10,324,523	49.19%	10,900	5,590	13,507,939	51.34%	23,210	12,950	87,670,611	53.51%
West	7,790	3,610	6,137,862	46.33%	8,760	4,220	8,240,635	44.71%	18,290	9,750	53,708,531	49.90%
Alabama	620	280	398,517	45.41%	680	320	542,365	43.48%	1,350	660	3,401,653	43.60%
Alaska	460	220	59,683	49.05%	400	220	66,922	57.49%	880	560	469,764	63.48%
Arizona	440	220	572,152	50.08%	460	240	807,983	49.44%	1,020	590	5,084,803	55.08%
Arkansas	490	230	247,998	48.46%	550	270	322,683	49.05%	1,060	610	2,012,387	57.11%
California	2,040	950	3,037,565	46.38%	2,170	1,020	4,070,916	45.04%	5,110	2,550	26,500,736	47.76%
Colorado	510	210	433,271	39.91%	460	200	615,297	40.08%	1,040	580	4,039,546	56.39%
Connecticut	390	170	264,452	38.71%	330	160	386,997	47.61%	920	510	2,519,366	53.51%
Delaware	630	260	75,936	42.05%	490	200	99,412	37.33%	1,200	630	725,631	50.35%
District of Columbia	450	250	38,140	53.58%	420	230	82,333	52.53%	810	520	480,813	61.11%
Florida	1,360	660	1,584,726	52.25%	1,270	660	2,124,639	52.26%	3,140	1,700	16,416,464	52.06%
Georgia	520	290	917,123	55.69%	740	430	1,167,786	51.89%	1,320	730	7,281,835	49.49%
Hawaii	410	180	98,316	41.49%	500	270	117,786	55.06%	1,100	560	985,439	53.78%
Idaho	620	290	170,977	48.62%	680	300	221,670	39.76%	1,200	610	1,287,140	44.35%
Illinois	1,270	460	978,635	36.79%	1,560	740	1,318,827	44.11%	2,970	1,650	8,526,953	49.89%
Indiana	420	200	559,624	45.16%	510	270	753,710	54.36%	970	560	4,493,296	60.09%
Iowa	470	210	257,997	42.70%	430	210	364,705	45.61%	1,060	610	2,103,405	55.95%
Kansas	470	230	248,739	43.96%	620	350	333,407	52.33%	1,030	630	1,884,489	60.44%
Kentucky	510	250	358,063	47.78%	460	240	464,896	49.55%	990	610	3,015,444	61.56%
Louisiana	470	210	369,659	46.90%	430	220	466,005	49.09%	1,080	560	2,974,184	48.37%
Maine	340	120	90,215	36.18%	400	170	127,049	41.44%	980	560	1,014,597	56.86%
Maryland	520	220	484,740	45.26%	520	220	597,365	40.72%	1,000	500	4,205,970	46.11%
Massachusetts	260	100	482,424	34.94%	420	230	801,541	50.54%	930	530	4,915,728	56.75%
Michigan	1,170	540	753,603	46.78%	900	460	1,054,688	49.06%	2,360	1,360	6,874,347	54.51%
Minnesota	510	220	461,389	42.34%	440	190	583,897	39.47%	1,060	580	3,852,706	52.71%
Mississippi	560	250	243,240	43.92%	630	320	314,725	52.83%	1,240	670	1,898,234	51.98%

(continued)

Table C.2 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates; by State and Three Age Groups, 2024 (continued)

State	12-17			12-17 Weighted Interview Response Rate	18-25			18-25 Weighted Interview Response Rate	26+			26+ Weighted Interview Response Rate
	Total Selected People	12-17 Total Responded	12-17 Population Estimate		Total Selected People	18-25 Total Responded	18-25 Population Estimate		Total Selected People	26+ Total Responded	26+ Population Estimate	
Missouri	420	170	484,462	41.53%	470	240	637,914	50.45%	980	570	4,142,541	58.06%
Montana	400	140	83,570	30.43%	520	250	114,362	44.08%	800	460	774,770	57.47%
Nebraska	480	190	169,102	35.24%	460	220	222,738	49.88%	1,040	550	1,271,569	52.79%
Nevada	490	270	246,797	56.02%	560	290	296,260	45.29%	1,250	700	2,246,566	51.18%
New Hampshire	370	130	91,691	34.81%	470	180	134,741	36.61%	1,100	560	1,009,793	51.49%
New Jersey	790	390	719,748	48.26%	820	390	911,696	46.99%	1,520	760	6,456,842	50.58%
New Mexico	330	150	166,679	49.85%	500	270	222,726	52.86%	860	500	1,424,697	56.96%
New York	1,330	530	1,380,089	35.19%	1,660	820	2,029,055	46.01%	3,590	1,830	13,655,996	53.70%
North Carolina	740	350	831,157	47.27%	610	330	1,138,495	50.96%	1,570	900	7,348,496	52.85%
North Dakota	290	100	61,700	32.27%	370	200	97,751	51.13%	840	510	495,589	59.94%
Ohio	1,120	460	907,614	42.99%	1,480	640	1,194,336	38.24%	2,560	1,350	7,953,947	47.90%
Oklahoma	430	210	341,857	44.43%	460	250	444,636	53.67%	1,060	600	2,602,597	60.35%
Oregon	530	260	302,166	48.32%	750	350	415,612	43.93%	1,200	650	2,987,424	50.00%
Pennsylvania	890	330	936,520	35.45%	1,120	530	1,322,889	46.08%	2,080	1,180	8,948,419	56.33%
Rhode Island	490	230	72,230	46.16%	530	240	123,427	42.50%	1,290	690	768,544	52.77%
South Carolina	430	180	410,899	40.67%	480	260	542,890	51.66%	850	480	3,693,102	51.55%
South Dakota	390	150	76,033	38.02%	470	230	95,078	46.34%	810	480	590,641	61.82%
Tennessee	510	220	551,423	41.44%	630	290	726,839	43.05%	1,000	480	4,823,484	39.83%
Texas	1,170	630	2,683,813	50.81%	1,240	710	3,411,644	57.70%	2,940	1,790	19,729,603	61.53%
Utah	630	310	339,661	50.60%	700	310	472,732	42.62%	1,570	830	2,073,906	51.09%
Vermont	360	140	41,979	41.85%	490	240	70,332	48.41%	1,010	620	460,106	59.94%
Virginia	830	420	660,688	52.65%	830	400	886,986	47.81%	1,610	910	5,843,866	53.74%
Washington	610	250	579,757	41.20%	670	280	758,580	38.62%	1,470	680	5,442,451	45.48%
West Virginia	530	230	126,543	48.68%	470	240	174,241	42.52%	1,000	620	1,216,847	54.77%
Wisconsin	410	200	450,899	47.24%	680	320	632,736	45.47%	1,080	590	4,026,783	54.37%
Wyoming	330	150	47,268	40.17%	390	230	59,789	56.89%	800	480	391,290	60.03%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2024.

Table C.3 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Screening, Interview, and Overall Response Rates, and Population Estimates: Among People Aged 12 or Older; by State, 2023-2024

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected People	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	1,883,890	1,732,640	401,990	23.13%	272,910	137,920	285,849,971	51.00%	11.79%
Northeast	406,650	374,090	77,970	19.56%	51,240	25,330	49,358,983	52.21%	10.21%
Midwest	428,970	392,680	95,620	25.03%	64,270	32,270	58,581,912	51.41%	12.87%
South	623,830	572,210	134,870	23.42%	88,610	45,910	110,374,023	51.76%	12.12%
West	424,450	393,660	93,530	23.54%	68,790	34,410	67,535,054	48.52%	11.42%
Alabama	24,520	21,800	7,870	36.04%	5,130	2,410	4,320,317	45.17%	16.28%
Alaska	26,030	22,820	4,870	21.52%	3,440	1,980	592,344	61.18%	13.17%
Arizona	29,330	26,360	5,440	20.26%	4,020	2,170	6,394,372	52.11%	10.56%
Arkansas	21,430	18,870	5,670	29.70%	4,180	2,150	2,571,998	52.60%	15.62%
California	113,360	109,260	22,630	20.09%	18,930	9,080	33,372,048	47.10%	9.46%
Colorado	30,250	27,070	6,620	23.93%	4,340	2,040	5,050,370	49.09%	11.75%
Connecticut	31,500	29,670	5,830	19.58%	3,490	1,810	3,146,054	54.46%	10.66%
Delaware	38,500	35,220	7,460	21.34%	4,660	2,120	891,760	47.27%	10.09%
District of Columbia	45,170	42,890	7,950	19.04%	3,100	1,840	590,811	58.61%	11.16%
Florida	96,270	89,340	18,850	20.17%	12,110	6,120	19,798,601	49.94%	10.07%
Georgia	30,800	29,460	6,880	23.42%	5,450	3,010	9,294,029	49.85%	11.68%
Hawaii	28,030	25,480	5,560	19.29%	4,170	2,020	1,195,576	51.32%	9.90%
Idaho	23,340	21,940	7,010	31.91%	4,960	2,380	1,662,165	44.83%	14.31%
Illinois	83,450	77,460	14,810	19.38%	11,130	5,240	10,747,069	47.75%	9.25%
Indiana	23,980	21,450	5,130	24.23%	3,770	2,050	5,776,946	57.05%	13.82%
Iowa	24,030	21,860	6,180	28.34%	3,920	2,020	2,710,393	53.07%	15.04%
Kansas	21,480	19,440	5,280	26.75%	4,070	2,110	2,450,944	52.87%	14.14%
Kentucky	25,830	22,930	6,330	27.85%	3,870	2,110	3,810,452	57.24%	15.94%
Louisiana	21,890	19,470	5,640	29.43%	3,920	1,920	3,798,399	48.07%	14.15%
Maine	32,290	27,650	6,500	22.12%	3,800	1,880	1,226,672	53.36%	11.80%
Maryland	25,960	24,910	5,320	21.58%	3,750	1,780	5,250,034	46.67%	10.07%
Massachusetts	30,750	28,920	5,090	17.10%	3,390	1,780	6,140,727	55.29%	9.46%
Michigan	62,520	56,860	14,750	25.93%	8,910	4,740	8,632,840	54.53%	14.14%
Minnesota	25,770	24,290	6,410	26.20%	4,040	1,930	4,869,717	48.24%	12.64%
Mississippi	21,830	19,470	6,200	31.75%	4,550	2,240	2,449,691	48.06%	15.26%

(continued)

Table C.3 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Screening, Interview, and Overall Response Rates, and Population Estimates: Among People Aged 12 or Older; by State, 2023-2024 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected People	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	25,020	22,420	5,820	26.24%	3,580	1,960	5,241,120	57.67%	15.13%
Montana	31,370	27,260	5,450	19.07%	3,280	1,680	969,374	56.06%	10.69%
Nebraska	19,810	18,340	5,150	27.79%	3,940	1,980	1,651,161	51.89%	14.42%
Nevada	24,580	23,300	5,720	24.16%	4,410	2,420	2,754,394	52.03%	12.57%
New Hampshire	28,180	26,090	6,690	25.58%	4,220	1,910	1,232,273	48.37%	12.37%
New Jersey	43,350	40,890	8,460	20.88%	6,350	3,080	7,999,644	50.44%	10.53%
New Mexico	26,100	23,870	5,420	21.78%	3,610	1,940	1,805,570	55.75%	12.14%
New York	99,780	92,520	18,120	19.35%	13,450	6,570	16,932,347	51.08%	9.88%
North Carolina	47,440	43,460	8,840	20.48%	5,050	2,770	9,223,104	52.14%	10.68%
North Dakota	28,610	24,730	4,590	17.61%	3,090	1,600	649,125	53.84%	9.48%
Ohio	62,840	60,220	15,880	26.29%	10,400	4,880	10,008,349	45.58%	11.98%
Oklahoma	23,020	20,450	5,660	27.21%	3,970	2,080	3,368,237	55.82%	15.19%
Oregon	26,250	25,350	7,470	29.47%	4,580	2,270	3,686,290	48.46%	14.28%
Pennsylvania	74,710	69,050	13,030	18.89%	8,360	4,170	11,152,947	52.94%	10.00%
Rhode Island	33,800	30,200	6,680	21.57%	4,170	2,070	956,976	52.81%	11.39%
South Carolina	29,640	26,620	5,290	19.80%	3,210	1,670	4,598,656	51.02%	10.10%
South Dakota	24,540	21,210	4,570	21.08%	3,230	1,660	758,583	56.41%	11.89%
Tennessee	24,570	23,250	6,820	29.41%	4,260	1,940	6,058,560	41.50%	12.21%
Texas	70,330	63,820	12,800	19.79%	10,680	6,060	25,486,596	57.32%	11.34%
Utah	15,720	14,420	5,290	36.19%	5,230	2,630	2,843,992	52.14%	18.87%
Vermont	32,290	29,100	7,580	25.72%	4,010	2,050	571,343	55.02%	14.15%
Virginia	41,330	38,600	10,890	28.42%	7,050	3,760	7,346,469	52.90%	15.03%
Washington	23,770	22,620	7,690	33.73%	5,120	2,280	6,712,556	44.15%	14.89%
West Virginia	35,310	31,660	6,400	19.79%	3,670	1,930	1,516,309	54.65%	10.82%
Wisconsin	26,930	24,410	7,060	28.77%	4,200	2,110	5,085,664	52.60%	15.13%
Wyoming	26,310	23,910	4,370	17.88%	2,720	1,520	496,002	57.77%	10.33%

DU = dwelling unit.

NOTE: To compute the pooled 2023-2024 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2023 and 2024 individual response rates. The 2023-2024 population estimate is the average of the 2023 and the 2024 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2023-2024.

Table C.4 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates; by State and Three Age Groups, 2023-2024

State	12-17			12-17 Weighted Interview Response Rate	18-25			18-25 Weighted Interview Response Rate	26+			26+ Weighted Interview Response Rate
	Total Selected People	12-17 Total Responded	12-17 Population Estimate		Total Selected People	18-25 Total Responded	18-25 Population Estimate		Total Selected People	26+ Total Responded	26+ Population Estimate	
Total U.S.	62,570	28,320	25,933,359	45.71%	68,590	33,120	34,489,617	47.29%	141,750	76,480	225,426,995	52.19%
Northeast	11,070	4,730	4,073,572	41.28%	12,810	5,950	5,826,861	45.94%	27,360	14,650	39,458,551	54.28%
Midwest	14,610	6,170	5,420,572	42.16%	16,690	8,020	7,213,399	46.40%	32,960	18,090	45,947,940	53.30%
South	21,470	10,210	10,295,701	48.74%	21,530	10,820	13,312,565	50.00%	45,610	24,880	86,765,756	52.39%
West	15,420	7,210	6,143,514	46.71%	17,560	8,340	8,136,792	44.53%	35,810	18,860	53,254,748	49.34%
Alabama	1,190	530	398,626	45.76%	1,350	620	537,932	44.13%	2,590	1,260	3,383,759	45.27%
Alaska	840	410	59,423	50.02%	850	480	65,955	57.79%	1,740	1,080	466,966	63.03%
Arizona	940	490	572,404	50.99%	1,060	550	795,272	50.11%	2,020	1,130	5,026,697	52.56%
Arkansas	990	470	248,916	46.65%	1,110	540	320,462	47.27%	2,080	1,150	2,002,621	54.19%
California	4,200	1,980	3,041,649	46.63%	4,520	2,100	4,023,981	44.41%	10,200	5,000	26,306,417	47.56%
Colorado	1,070	450	434,982	39.40%	960	420	609,741	39.84%	2,300	1,170	4,005,647	51.57%
Connecticut	820	350	265,073	39.15%	730	360	380,326	47.38%	1,940	1,110	2,500,655	57.23%
Delaware	1,200	460	75,680	38.71%	1,070	440	97,758	37.66%	2,390	1,220	718,321	49.54%
District of Columbia	840	460	37,188	52.90%	760	410	81,044	50.71%	1,510	970	472,579	60.43%
Florida	2,930	1,420	1,566,827	50.05%	2,660	1,310	2,077,549	48.66%	6,520	3,390	16,154,225	50.09%
Georgia	1,150	630	918,542	54.06%	1,550	860	1,156,809	49.88%	2,750	1,520	7,218,678	49.28%
Hawaii	900	390	97,800	44.18%	1,040	520	116,838	49.21%	2,230	1,110	980,939	52.26%
Idaho	1,230	580	171,108	48.92%	1,380	600	218,353	40.87%	2,360	1,200	1,272,704	44.92%
Illinois	2,490	910	981,877	35.71%	2,940	1,320	1,298,075	43.14%	5,700	3,010	8,467,117	49.86%
Indiana	820	390	560,810	45.36%	1,070	570	747,005	53.08%	1,880	1,090	4,469,130	59.19%
Iowa	960	430	258,750	44.00%	950	470	360,269	46.97%	2,010	1,120	2,091,374	55.26%
Kansas	860	390	248,576	42.73%	1,220	620	329,253	49.01%	1,990	1,100	1,873,114	54.97%
Kentucky	1,000	460	357,257	43.60%	960	520	458,337	51.72%	1,910	1,140	2,994,858	59.59%
Louisiana	930	420	370,116	45.58%	810	390	461,928	45.80%	2,180	1,100	2,966,355	48.72%
Maine	820	320	90,601	35.83%	900	390	125,911	42.66%	2,080	1,170	1,010,161	56.18%
Maryland	980	420	482,919	46.37%	930	420	588,343	42.24%	1,830	940	4,178,771	47.37%
Massachusetts	580	240	481,430	37.37%	890	460	785,889	49.63%	1,920	1,080	4,873,408	57.82%
Michigan	2,290	1,070	754,988	47.33%	1,920	980	1,046,278	50.10%	4,700	2,700	6,831,574	56.01%
Minnesota	950	400	461,388	38.75%	980	420	577,363	39.32%	2,110	1,110	3,830,966	50.79%
Mississippi	1,080	470	245,247	42.90%	1,110	550	312,344	50.60%	2,370	1,210	1,892,100	48.28%

(continued)

Table C.4 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates; by State and Three Age Groups, 2023-2024 (continued)

State	12-17 Total Selected People	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected People	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected People	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	880	410	485,519	45.77%	850	450	633,648	54.30%	1,850	1,100	4,121,953	59.56%
Montana	750	270	83,910	31.10%	940	450	114,082	46.54%	1,590	970	771,382	60.19%
Nebraska	920	400	168,484	41.15%	870	420	219,109	48.08%	2,140	1,160	1,263,568	54.00%
Nevada	920	520	246,297	56.67%	1,110	580	291,891	48.91%	2,380	1,330	2,216,206	51.92%
New Hampshire	870	340	92,334	37.33%	990	400	134,712	37.74%	2,360	1,180	1,005,227	50.75%
New Jersey	1,630	780	716,470	45.75%	1,640	790	893,517	48.87%	3,090	1,510	6,389,658	51.19%
New Mexico	690	340	167,536	51.97%	1,100	570	220,419	49.04%	1,810	1,040	1,417,616	57.27%
New York	2,760	1,220	1,376,309	42.05%	3,400	1,600	2,002,935	44.64%	7,280	3,750	13,553,103	52.98%
North Carolina	1,270	620	830,918	48.30%	1,110	600	1,119,500	49.31%	2,670	1,550	7,272,686	53.02%
North Dakota	620	210	61,395	34.44%	790	420	96,152	49.37%	1,690	970	491,579	57.03%
Ohio	2,290	920	909,574	41.62%	2,870	1,270	1,185,645	41.01%	5,240	2,690	7,913,131	46.72%
Oklahoma	990	480	341,346	44.01%	960	480	440,784	51.50%	2,020	1,120	2,586,107	58.12%
Oregon	1,000	450	302,681	43.46%	1,350	610	411,216	42.42%	2,230	1,210	2,972,394	49.86%
Pennsylvania	1,850	760	936,838	40.03%	2,240	1,040	1,311,144	44.87%	4,270	2,370	8,904,965	55.57%
Rhode Island	930	410	72,323	43.25%	990	440	122,065	43.00%	2,260	1,220	762,589	55.30%
South Carolina	800	340	410,711	40.91%	830	420	535,279	47.56%	1,580	910	3,652,666	52.79%
South Dakota	740	290	76,147	38.54%	910	450	94,444	48.11%	1,590	930	587,992	60.38%
Tennessee	1,010	410	551,075	38.67%	1,170	550	719,430	43.22%	2,080	980	4,788,055	41.56%
Texas	2,300	1,230	2,672,664	51.89%	2,530	1,420	3,351,517	56.33%	5,850	3,410	19,462,415	58.24%
Utah	1,120	570	339,331	51.48%	1,300	580	462,349	43.34%	2,810	1,490	2,042,312	54.12%
Vermont	820	320	42,195	40.75%	1,040	470	70,363	42.62%	2,160	1,270	458,785	58.16%
Virginia	1,850	980	660,643	54.05%	1,680	830	879,942	49.94%	3,520	1,950	5,805,884	53.23%
Washington	1,140	490	578,723	43.71%	1,270	520	747,678	40.01%	2,710	1,270	5,386,156	44.79%
West Virginia	980	430	127,026	45.86%	930	460	173,607	43.92%	1,760	1,050	1,215,677	57.07%
Wisconsin	790	370	453,065	45.02%	1,340	620	626,158	44.33%	2,070	1,120	4,006,442	54.82%
Wyoming	610	280	47,672	40.62%	680	370	59,018	53.74%	1,440	870	389,312	60.53%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled 2023-2024 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2023 and 2024 individual response rates. The 2023-2024 population estimate is the average of the 2023 and the 2024 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2023-2024.

Table C.5 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates: Among People Aged 12 to 20; by State, 2023 and 2024

State	2024			2024 Weighted Interview Response Rate	2023-2024			2023-2024 Weighted Interview Response Rate
	Total Selected People	2024 Total Responded	2024 Population Estimate		Total Selected People	2023-2024 Total Responded	2023-2024 Population Estimate	
Total U.S.	43,270	19,990	38,514,798	46.38%	86,500	39,940	38,288,717	46.36%
Northeast	7,290	3,090	6,076,991	40.46%	15,380	6,680	6,047,220	42.11%
Midwest	10,420	4,570	8,147,040	43.58%	20,460	8,940	8,122,444	43.57%
South	14,680	7,180	15,188,559	50.15%	29,030	14,050	14,980,766	49.31%
West	10,880	5,150	9,102,207	46.48%	21,630	10,270	9,138,286	46.72%
Alabama	870	400	583,755	44.81%	1,690	770	599,498	45.97%
Alaska	590	290	78,162	49.88%	1,130	560	82,118	51.29%
Arizona	590	300	827,477	49.72%	1,300	680	858,237	50.54%
Arkansas	700	330	351,245	46.18%	1,400	660	352,281	45.58%
California	2,830	1,330	4,409,159	46.37%	5,820	2,780	4,465,866	46.69%
Colorado	680	290	655,934	40.56%	1,420	610	667,165	39.32%
Connecticut	500	210	370,853	40.66%	1,070	460	394,029	40.87%
Delaware	820	340	115,460	41.65%	1,610	620	115,088	38.89%
District of Columbia	540	290	58,071	54.30%	1,000	540	55,229	52.88%
Florida	1,820	910	2,359,166	52.54%	3,890	1,920	2,350,395	50.49%
Georgia	790	440	1,268,637	54.34%	1,660	920	1,294,268	52.99%
Hawaii	610	290	143,472	46.31%	1,300	590	143,765	47.08%
Idaho	840	400	253,758	48.58%	1,700	810	263,227	48.73%
Illinois	1,840	710	1,419,719	37.78%	3,530	1,350	1,438,017	36.96%
Indiana	610	290	825,734	47.31%	1,180	560	809,019	47.49%
Iowa	640	300	417,150	44.37%	1,330	610	415,161	45.28%
Kansas	670	340	356,874	45.74%	1,260	590	356,784	43.92%
Kentucky	670	330	543,465	49.45%	1,340	640	529,200	46.60%
Louisiana	650	310	593,833	49.98%	1,250	590	568,895	47.42%
Maine	480	170	136,319	37.68%	1,140	460	137,798	38.25%
Maryland	740	310	741,902	43.56%	1,340	570	701,054	45.01%
Massachusetts	380	170	808,149	41.90%	830	370	739,622	40.45%
Michigan	1,480	710	1,164,909	49.29%	2,950	1,420	1,144,774	49.59%
Minnesota	670	290	690,641	42.92%	1,300	550	701,679	39.97%
Mississippi	820	400	368,235	49.28%	1,510	710	363,362	46.89%

(continued)

Table C.5 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates: Among People Aged 12 to 20; by State, 2023 and 2024 (continued)

State	2024			2024 Weighted Interview Response Rate	2023-2024			2023-2024 Weighted Interview Response Rate
	Total Selected People	2024 Total Responded	2024 Population Estimate		Total Selected People	2023-2024 Total Responded	2023-2024 Population Estimate	
Missouri	590	260	725,748	45.82%	1,180	570	718,403	49.33%
Montana	580	220	129,938	34.28%	1,080	410	125,826	35.36%
Nebraska	650	270	245,622	38.85%	1,220	540	243,194	42.64%
Nevada	690	370	358,665	53.39%	1,310	730	361,892	55.85%
New Hampshire	530	200	135,746	36.11%	1,180	460	131,526	37.28%
New Jersey	1,080	530	985,354	47.33%	2,220	1,070	1,014,178	46.18%
New Mexico	510	260	275,342	52.68%	1,110	550	263,979	51.66%
New York	1,850	770	2,055,333	38.21%	3,870	1,740	2,056,714	42.43%
North Carolina	940	460	1,221,879	48.20%	1,650	820	1,192,518	47.77%
North Dakota	410	160	97,148	38.45%	890	350	95,153	38.40%
Ohio	1,660	690	1,358,421	41.58%	3,320	1,380	1,367,540	41.61%
Oklahoma	580	290	478,990	46.51%	1,310	640	468,983	44.26%
Oregon	800	400	477,347	48.48%	1,500	690	460,148	43.81%
Pennsylvania	1,280	510	1,413,401	38.07%	2,620	1,090	1,400,176	40.62%
Rhode Island	670	310	109,441	46.00%	1,280	560	111,446	42.94%
South Carolina	590	280	594,155	46.84%	1,080	490	601,487	44.80%
South Dakota	560	240	104,997	40.38%	1,030	430	103,621	40.64%
Tennessee	740	340	799,577	43.64%	1,410	610	783,213	40.93%
Texas	1,600	880	3,891,112	52.82%	3,170	1,720	3,817,605	52.97%
Utah	860	430	496,307	50.52%	1,530	760	482,064	51.03%
Vermont	530	220	62,395	40.70%	1,170	470	61,729	40.33%
Virginia	1,120	570	1,023,859	51.83%	2,430	1,270	995,830	52.91%
Washington	840	350	927,651	41.31%	1,570	680	893,696	43.26%
West Virginia	700	320	195,219	48.19%	1,300	590	191,861	46.61%
Wisconsin	660	310	740,076	45.65%	1,280	590	729,099	44.69%
Wyoming	470	230	68,996	45.49%	860	420	70,303	45.13%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled 2023-2024 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2023 and 2024 individual response rates. The 2023-2024 population estimate is the average of the 2023 population and the 2024 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2023 and 2024.

Table C.6 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates: Among People Aged 18 or Older; by State, 2023 and 2024

State	2024			2024 Weighted Interview Response Rate	2023-2024			2023-2024 Weighted Interview Response Rate
	Total Selected People	2024 Total Responded	2024 Population Estimate		Total Selected People	2023-2024 Total Responded	2023-2024 Population Estimate	
Total U.S.	105,960	56,230	262,290,886	52.15%	210,340	109,600	259,916,612	51.53%
Northeast	19,630	10,190	45,657,117	53.22%	40,170	20,600	45,285,411	53.20%
Midwest	25,170	13,530	53,506,054	52.61%	49,650	26,100	53,161,339	52.35%
South	34,110	18,540	101,178,550	53.22%	67,150	35,700	100,078,322	52.07%
West	27,050	13,970	61,949,165	49.21%	53,370	27,200	61,391,539	48.70%
Alabama	2,030	980	3,944,018	43.58%	3,940	1,880	3,921,691	45.11%
Alaska	1,270	780	536,686	62.75%	2,590	1,570	532,922	62.41%
Arizona	1,480	830	5,892,785	54.28%	3,080	1,680	5,821,968	52.22%
Arkansas	1,610	880	2,335,070	55.94%	3,190	1,690	2,323,083	53.24%
California	7,280	3,560	30,571,651	47.40%	14,730	7,100	30,330,398	47.15%
Colorado	1,500	770	4,654,843	54.14%	3,260	1,590	4,615,388	50.01%
Connecticut	1,250	680	2,906,364	52.67%	2,670	1,470	2,880,981	55.88%
Delaware	1,690	840	825,043	48.71%	3,460	1,660	816,079	48.06%
District of Columbia	1,230	750	563,146	59.83%	2,260	1,380	553,623	58.98%
Florida	4,410	2,360	18,541,104	52.08%	9,180	4,700	18,231,774	49.93%
Georgia	2,060	1,160	8,449,621	49.82%	4,300	2,380	8,375,487	49.37%
Hawaii	1,600	830	1,103,225	53.92%	3,270	1,630	1,097,777	51.94%
Idaho	1,880	910	1,508,810	43.69%	3,730	1,800	1,491,057	44.33%
Illinois	4,540	2,390	9,845,780	49.09%	8,640	4,330	9,765,192	48.96%
Indiana	1,490	840	5,247,006	59.24%	2,950	1,670	5,216,136	58.28%
Iowa	1,490	820	2,468,110	54.46%	2,960	1,590	2,451,643	54.04%
Kansas	1,660	980	2,217,896	59.21%	3,200	1,720	2,202,368	54.06%
Kentucky	1,450	850	3,480,340	60.01%	2,880	1,660	3,453,195	58.59%
Louisiana	1,510	780	3,440,189	48.48%	2,990	1,500	3,428,283	48.33%
Maine	1,380	730	1,141,646	55.32%	2,990	1,560	1,136,072	54.74%
Maryland	1,520	720	4,803,336	45.41%	2,770	1,360	4,767,114	46.70%
Massachusetts	1,350	750	5,717,268	55.93%	2,800	1,540	5,659,297	56.72%
Michigan	3,250	1,820	7,929,035	53.79%	6,630	3,670	7,877,852	55.23%
Minnesota	1,510	770	4,436,604	51.02%	3,090	1,540	4,408,329	49.27%
Mississippi	1,870	990	2,212,959	52.10%	3,480	1,770	2,204,444	48.62%

(continued)

Table C.6 Survey Sample Sizes (Rounded to the Nearest 10), Weighted Interview Response Rates, and Population Estimates: Among People Aged 18 or Older; by State, 2023 and 2024 (continued)

State	2024			2024 Weighted Interview Response Rate	2023-2024			2023-2024 Weighted Interview Response Rate
	Total Selected People	2024 Total Responded	2024 Population Estimate		Total Selected People	2023-2024 Total Responded	2023-2024 Population Estimate	
Missouri	1,460	810	4,780,455	57.08%	2,690	1,550	4,755,601	58.86%
Montana	1,320	720	889,132	55.87%	2,530	1,410	885,464	58.41%
Nebraska	1,500	780	1,494,306	52.35%	3,020	1,580	1,482,678	53.12%
Nevada	1,810	990	2,542,826	50.50%	3,480	1,900	2,508,097	51.58%
New Hampshire	1,560	740	1,144,533	49.83%	3,350	1,580	1,139,939	49.28%
New Jersey	2,340	1,160	7,368,539	50.14%	4,730	2,310	7,283,174	50.90%
New Mexico	1,360	770	1,647,423	56.39%	2,920	1,610	1,638,035	56.15%
New York	5,250	2,650	15,685,051	52.67%	10,690	5,350	15,556,038	51.90%
North Carolina	2,180	1,230	8,486,992	52.60%	3,780	2,150	8,392,186	52.52%
North Dakota	1,210	720	593,340	58.51%	2,470	1,390	587,731	55.78%
Ohio	4,040	1,990	9,148,283	46.60%	8,110	3,960	9,098,775	45.97%
Oklahoma	1,520	850	3,047,232	59.39%	2,980	1,610	3,026,891	57.13%
Oregon	1,950	1,000	3,403,036	49.25%	3,580	1,820	3,383,609	48.94%
Pennsylvania	3,200	1,710	10,271,307	54.97%	6,510	3,410	10,216,109	54.16%
Rhode Island	1,820	930	891,971	51.28%	3,250	1,660	884,654	53.58%
South Carolina	1,320	740	4,235,991	51.56%	2,410	1,330	4,187,945	52.07%
South Dakota	1,280	710	685,719	59.45%	2,490	1,380	682,436	58.57%
Tennessee	1,620	770	5,550,323	40.26%	3,250	1,530	5,507,485	41.79%
Texas	4,180	2,500	23,141,247	60.96%	8,380	4,830	22,813,932	57.95%
Utah	2,270	1,150	2,546,638	49.61%	4,100	2,070	2,504,661	52.22%
Vermont	1,500	850	530,438	58.46%	3,190	1,740	529,148	56.14%
Virginia	2,440	1,310	6,730,852	52.90%	5,200	2,780	6,685,826	52.78%
Washington	2,150	960	6,201,031	44.61%	3,980	1,790	6,133,833	44.19%
West Virginia	1,470	850	1,391,088	53.22%	2,690	1,510	1,389,284	55.43%
Wisconsin	1,760	920	4,659,518	53.16%	3,410	1,750	4,632,599	53.36%
Wyoming	1,190	710	451,079	59.61%	2,110	1,240	448,330	59.61%


NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled 2023-2024 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2023 and 2024 individual response rates. The 2023-2024 population estimate is the average of the 2023 population and the 2024 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2023 and 2024.

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Section E: List of Contributors

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